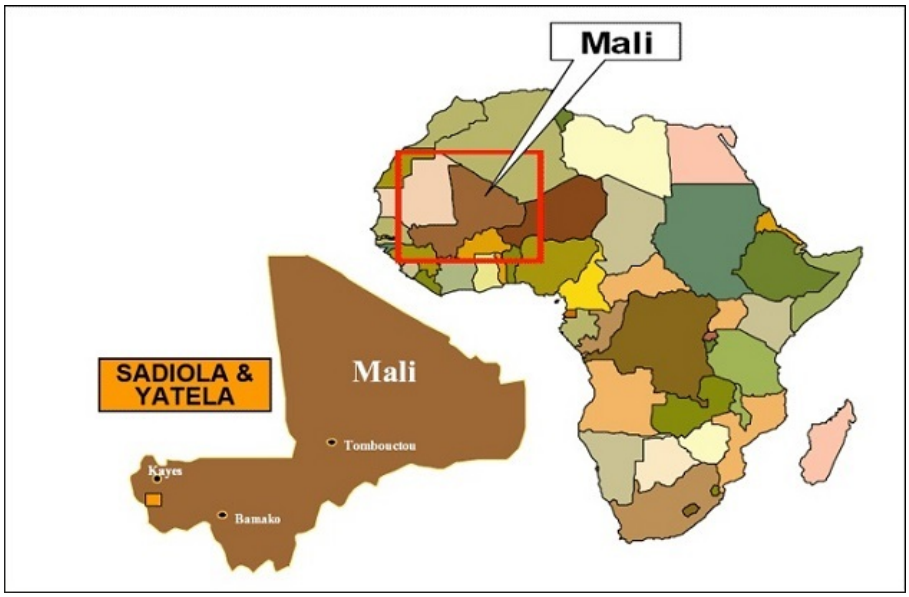
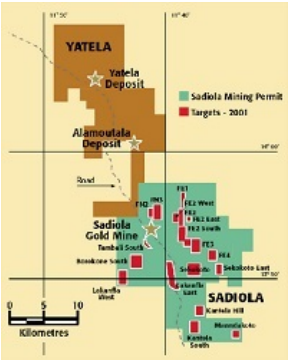
IAMGOLD

# Yatela Gold Mine, Mali

*Mar 27, 2014*

## Location




The Yatela Gold Mine is located 25 kilometres north of the Sadiola Gold Mine in southwest Mali, West Africa near the Senegal-Mali border, approximately 50 kilometres to the SSW of the town of Kayes, the regional capital. Kayes has a population of roughly 100,000 people. The city is located 510 kilometres northwest of the Mali capital Bamako. The Republic of Mali is a landlocked nation bordering Algeria on the north, Niger on the east, Burkina Faso and the Côte d'Ivoire on the south, Guinea on the south-west, and Senegal and Mauritania on the west. The country is just over 1,240,000 km² with an estimated population of almost 12,000,000.

The Yatela Mining Permit covers an area of 195 square kilometres in a remote part of Mali. In 2005, a new access road was constructed between Yatela and Sadiola to facilitate movement between the two operations.

There is an airstrip at the Sadiola Gold Mine capable of handling light aircraft on a charter basis from Bamako.

Kayes is serviced by rail, road and air from Bamako, the capital of Mali, and from Dakar, the capital of Senegal. Bamako has an international airport with daily flights to many other West African and European destinations. There are return flights twice a week between Bamako and Kayes. Dakar is a major port of entry to West Africa by sea and air and the primary supply route for imported goods coming to the minesite.

## History

The Sadiola deposit was identified as a favourable gold exploration area, based upon the widespread evidence of artisanal gold workings, and small scale mining by locals. Written records of mining at Sadiola reportedly date back almost 300 years and the extent of the old workings suggests that the mining could have occurred over 1,000 years ago. The Yatela area was recognized early on in this exploration rush as having the potential to host a mineable deposit.

In late 1997, IAMGOLD and Anglo American signed an agreement with Eltin Limited of Australia to purchase the Yatela concession located 25 kilometres north of the Sadiola Gold Mine. The purchase was completed in early 1998 and a feasibility study managed by AngloGold was commenced in March 1998. The final feasibility study was issued in November 1999. The Government of Mali issued an exploitation permit for the Yatela project in February 2000. IAMGOLD and AngloGold then agreed to proceed with the development of the Yatela Gold Mine. The gold assets of Anglo American were eventually spun off to form the largest part of a new company: AngloGold Ashanti.

AngloGold Ashanti, through its wholly-owned subsidiary AngloGold Ashanti Mali S.A. (''AngloGold Mali''), is the operator of the Yatela Gold Mine.

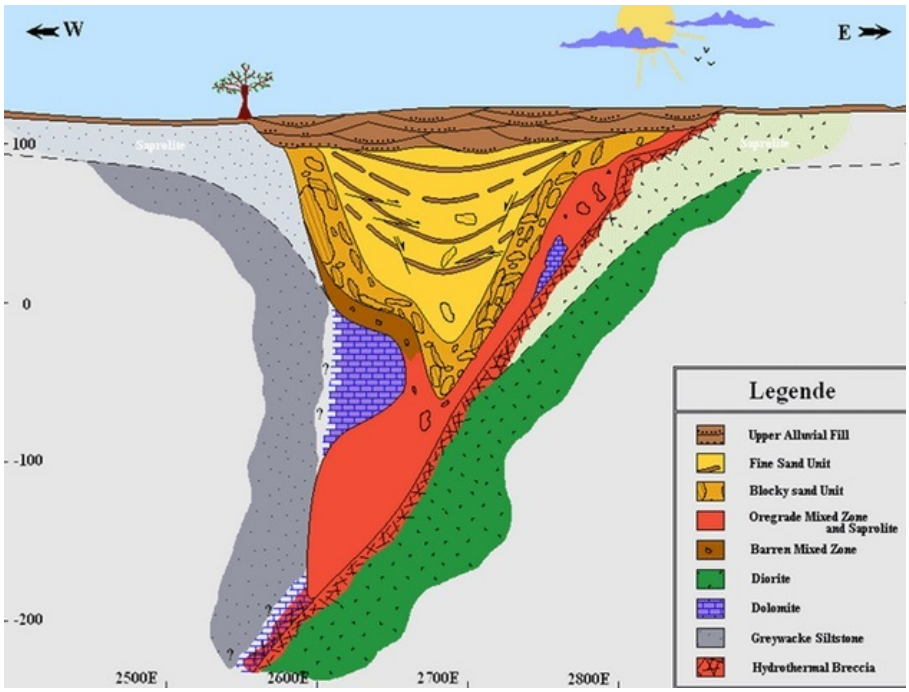
### Milestones

**1987** Government of Mali began exploration of Sadiola/Yatela area
**1997** IAMGOLD and AngloGold Ashanti acquired Yatela
**1999** Yatela feasibility study completed
**2000** Development of the Yatela Gold Mine commenced
**2001** Yatela Gold Mine commenced production

## Geology

The Yatela deposit is located within the northern, Malian portion of the Kenieba - Kedougou window. A full description of the regional geology can be found under the Sadiola Gold Mine Geology & Mineralization section of this website.

## Mineralization




Gold and disseminated pyrite with associated albite, sericite and dolomite alteration occurs along a faulted contact between a carbonate sequence and a diorite, all unconformably overlain by Upper Proterozoic Seroukoto sandstones. Economic mineralization occurs in an unconsolidated ferruginous, sandy, locally clayey unit that lines the bottom of deep troughs (max 220 m) developed over the carbonates. The ore zone is overlain by a thick unit of angular blocks of Seroukoto sandstone and shale. This is covered by a fine sand unit and with interbedded layers of pisolithic gravel and laterite rubble. The final fill consists of stacked subhorizontal layers of pisolithic gravel grading into fine sands. The geometry of the lateritic layering indicates that deposition was concomitant with the deepening of the trough as deeper pisolithic layers show gradually increased sagging with depth. This is thought to result from karstic dissolution of mineralized carbonate and simultaneous infill of the depression. The ferruginous basal ore corresponds to the gold-enriched dissolution residue of the mineralized carbonate (Hanssen et al., 2004).

## Mining


The Yatela Gold Mine uses conventional open pit mining techniques. Production currently exploits the main Yatela pit with supplemental ore sourced from Alamoutala during 2003/2004. The main pit is currently designed to be 1,300 metres in length with a maximum width and depth of approximately 600 metres and 220 metres, respectively.

Mining of heap-leachable ore will cease in mid-2010 after which leaching and rinsing of the heaps will continue for some months. The potential for a small amount of sulphide ore below the existing Alamoutala deposit to be treated at Sadiola is being investigated.

## Processing

The process plant consists of a standard heap leaching facility. It consists of a crusher feeding an agglomeration drum to produce a pelletized product. The discharge from the agglomeration drum is transported by an overland conveyor to the “grasshopper” mobile conveyors and radial stackers which build each heap leach pad in three lifts. Cement is added during the agglomeration process to add structural stability to the heaps and ensure adequate percolation on the lower lifts. Cyanide solution is fed through drip irrigation piping on the pads. The pregnant solution is collected after it has percolated through the pad and is eventually pumped through carbon filled columns which strip out the gold.

The average life-of-mine gold recovery rate incorporated in the feasibility study was 85%. The leach cycle of the Yatela Gold Mine is longer than originally anticipated, however, the ultimate recovery rate for the contained gold is still around 85%.

**Source:** http://www.iamgold.com/English/Operations/Operating-Mines/Yatela-Gold-Mine/Overview/default.aspx

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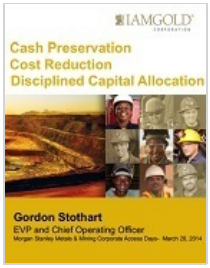


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